WHAT IS CLAIMED IS:

    1.   A method for booting up a multiple function device, the method comprises:

    detecting activation of the multiple function device;

5   retrieving a first boot algorithm from read only memory of the multiple function device in response to detecting the activation of the multiple function device;

    executing the first boot algorithm based on booting

10   inputs to identify a location of a second boot algorithm;

    determining whether the second boot algorithm is stored at the identified location;

    determining whether the second boot algorithm is

15   executable when the second boot algorithm is stored at the identified location; and

    executing the second boot algorithm to retrieve one of a plurality of functional algorithms when the second boot algorithm is executable.

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2.   The method of Claim 1 further comprises:

determining whether the multiple function device is

operably coupled to a host when the second boot

algorithm is not stored at the identified location;

5   downloading a functional algorithm selected from the

plurality of functional algorithms prior to

expiration of a time out period when the multiple

function device is operably coupled to the host;

and

10   shutting down the multiple function device after

expiration of a time out period when the multiple

function device is not operably coupled to the

host.

3.   The method of Claim 2 further comprises:

determining whether the multiple function device is

operably coupled to a host when the second boot

algorithm is not executable;

5   downloading a functional algorithm selected from the

plurality of functional algorithms prior to

expiration of a time out period when the multiple

function device is operably coupled to the host;

and

10   shutting down the multiple function device after

expiration of a time out period when the multiple

function device is not operably coupled to the

host.

15   4.   The method of Claim 3 wherein the plurality of

functional algorithms comprises at least two of:

a digital audio player;

a file storage;

a digital multimedia player;

20   an extended memory device;

a digital audio recorder;

a digital multimedia recorder;

a personal data assistant; and

an extended memory device with a set of instructions to

25   repair the second boot algorithm.

5   5.   The method of Claim 2 further comprising monitoring for

a change in status of an operable connection between the multiple

function device and the host, wherein when the change occurs, the

process for booting up the multiple function device restarts.

6.   The method of Claim 5, wherein, prior to the change,

the status of the operable connection is in a 1st external state,

and, following the change, the operable connection is in a 2nd

10   external state.

7.   The method of Claim 1, wherein the booting inputs

comprise boot pins of an integrated circuit of the multiple

function device, wherein input stimuli on the boot pins

15   identifies an access port of the integrated circuit corresponding

to the location of the second boot algorithm, wherein the access

port includes at least one of: a universal serial bus (USB)

interface, a flash memory interface, an electronically

programmable read only memory (EPROM) interface, a multi-wire

20   interface, and a hard drive interface.

8.   The method of Claim 6, wherein in the 1st external

state the multiple function device is operably coupled to the

host and wherein in the 2nd external state the multiple function

25   device is not operably coupled to the host.

9. The method of Claim 6, wherein in the 1st external state the multiple function device is not operably coupled to the host and wherein in the 2nd external state the multiple function is operably coupled to the host.

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10. The method of Claim 6, wherein in the 1st external state the multiple function device is operably coupled to the host and wherein in the 2nd external state the multiple function device is operably coupled to a second host.

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11. The method of Claim 1, wherein the booting inputs comprise boot pins of an integrated circuit of the multiple function device, wherein input stimuli on the boot pins identifies an access port of the integrated circuit corresponding to the location of the second boot algorithm, wherein the access port includes at least one of: a universal serial bus (USB) interface, a flash memory interface, an electronically programmable read only memory (EPROM) interface, a multi-wire interface, and a hard drive interface.

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12.   A method for booting up a multiple function handheld device, the method comprises:

retrieving a first boot algorithm from read only memory of the multiple function handheld device;

executing the first boot algorithm to access a second boot algorithm;

determining whether the second boot algorithm is executable;   and

when the second boot algorithm is executable, executing the second boot algorithm to retrieve one of a plurality of functional algorithms.

13.   The method of Claim 12, further comprises:

waiting to operably couple with a host when the second boot algorithm is not executable; and

downloading one of the plurality of functional algorithms when operably coupled.

14.   The method of Claim 13, wherein the second boot algorithm is not executable because the second boot algorithm is not stored at a specified location.

15.   The method of Claim 13, wherein booting inputs identify the specified location.

16. The method of Claim 15, wherein the booting inputs comprise boot pins of an integrated circuit of the multiple function device, wherein input stimuli on the boot pins identifies an access port of the integrated circuit corresponding to the location of the second boot algorithm, wherein the access port includes at least one of: a universal serial bus (USB) interface, a flash memory interface, an electronically programmable read only memory (EPROM) interface, a multi-wire interface, and a hard drive interface.

17. The method of Claim 13, wherein the second boot algorithm is not executable because the second boot algorithm is corrupt.

18. The method of Claim 13, further comprises shutting down the multiple function device after expiration of a time out period when the multiple function device is not operably coupled to the host.

19.   The method of Claim 13, wherein the plurality of
functional algorithms comprises at least two of:

a digital audio player;

a file storage;

a digital multimedia player;

an extended memory device;

a digital audio recorder;

a digital multimedia recorder;

a personal data assistant; and

an extended memory device with a set of instructions to
repair the second boot algorithm.

20.   The method of Claim 13 further comprising monitoring
for a change in status of an operable connection between the
multiple function handheld device and the host, wherein when the
change occurs, the method of booting up the multiple function
handheld device restarts.

21.   The method of Claim 20, wherein, prior to the change,
the status of the operable connection is in a 1st external state,
and, following the change, the operable connection is in a 2nd
external state.

22. An apparatus for booting up a multiple function device,
the apparatus comprises:

        processing module;

        read only memory; and

5   memory, wherein the processing module functions to:

            detect activation of the multiple function device;

            retrieve a first boot algorithm from the read only

                memory in response to detecting the activation

                of the multiple function device;

10   execute the first boot algorithm based on booting

                inputs to identify a location of a second boot

                algorithm;

            determine whether the second boot algorithm is

                stored at the identified location;

15   determine whether the second boot algorithm is

                executable when the second boot algorithm is

                stored at the identified location; and

            execute the second boot algorithm to retrieve one

                of a plurality of functional algorithms when

20   the second boot algorithm is executable.

23. The apparatus of Claim 22, wherein the processing
module further functions to:

      determine whether the multiple function device is

          operably coupled to a host when the second boot

5   algorithm is not stored at the identified location;

      download a functional algorithm selected from the

          plurality of functional algorithms prior to

          expiration of a time out period when the multiple

          function device is operably coupled to the host;

10   and

      shut down the multiple function device after expiration

          of a time out period when the multiple function

          device is not operably coupled to the host.

24. The apparatus of Claim 22, wherein the processing

module further functions to:

        determine whether the multiple function device is

            operably coupled to a host when the second boot

5   algorithm is not executable;

        download a functional algorithm selected from the

            plurality of functional algorithms prior to

            expiration of a time out period when the multiple

            function device is operably coupled to the host;

10   and

        shut down the multiple function device after expiration

            of a time out period when the multiple function

            device is not operably coupled to the host.

15   25. The apparatus of Claim 24, wherein the plurality of

functional algorithms comprises at least two of:

        a digital audio player;

        a file storage;

        a digital multimedia player;

20   an extended memory device;

        a digital audio recorder;

        a digital multimedia recorder;

        a personal data assistant; and

        an extended memory device with a set of instructions to

25   repair the second boot algorithm.

26. The apparatus of Claim 23, wherein the processing module further functions to monitor for a change in status of an operable connection between the multiple function device and the

5   host, wherein when the change occurs, the process for booting up the multiple function device restarts.

27. The apparatus of Claim 26, wherein, prior to the change, the status of the operable connection is in a 1st

10   external state, and, following the change, the operable connection is in a 2nd external state.

28. The apparatus of Claim 27, wherein in the 1st external state the multiple function device is operably coupled to the

15   host and wherein in the 2nd external state the multiple function device is not operably coupled to the host.

29. The apparatus of Claim 28, wherein in the 1st external state the multiple function device is not operably coupled to the

20   host and wherein in the 2nd external state the multiple function is operably coupled to the host.

30. The apparatus of Claim 29, wherein in the 1st external state the multiple function device is operably coupled to the

25   host and wherein in the 2nd external state the multiple function device is operably coupled to a second host.

31.   The apparatus of Claim 22, wherein the booting inputs

comprise boot pins of an integrated circuit of the multiple

function device, wherein input stimuli on the boot pins

5   identifies an access port of the integrated circuit corresponding

to the location of the second boot algorithm, wherein the access

port includes at least one of: a universal serial bus (USB)

interface, a flash memory interface, an electronically

programmable read only memory (EPROM) interface, a multi-wire

10   interface, and a hard drive interface.

32.   An apparatus for booting up a multiple function

handheld device, the apparatus comprises:

processing module;

15   read only memory;   and

memory, wherein the processing module functions to:

retrieve a first boot algorithm from the read only

memory;

execute the first boot algorithm to access a second

20   boot algorithm;

determine whether the second boot algorithm is

executable;   and

when the second boot algorithm is executable,

execute the second boot algorithm to retrieve

25   one of a plurality of functional algorithms.

33. The apparatus of Claim 32, wherein the processing module further functions to:

        wait to operably couple with a host when the second

5
                boot algorithm is not executable; and

        download one of the plurality of functional algorithms

                when operably coupled.

34. The apparatus of Claim 33, wherein the second boot

10   algorithm is not executable because the second boot algorithm is not stored at a specified location.

35. The apparatus of Claim 33, wherein booting inputs identify the specified location.

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36. The apparatus of Claim 35, wherein the booting inputs comprise boot pins of an integrated circuit of the multiple function device, wherein input stimuli on the boot pins identifies an access port of the integrated circuit corresponding

20   to the location of the second boot algorithm, wherein the access port includes at least one of: a universal serial bus (USB) interface, a flash memory interface, an electronically programmable read only memory (EPROM) interface, a multi-wire interface, and a hard drive interface.

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37. The apparatus of Claim 33, wherein the second boot algorithm is not executable because the second boot algorithm is corrupt.

5   38. The apparatus of Claim 33, wherein the processing module further functions to shut down the multiple function device after expiration of a time out period when the multiple function device is not operably coupled to the host.

10   39. The apparatus of Claim 33, wherein the plurality of functional algorithms comprises at least two of:

a digital audio player;

a file storage;

a digital multimedia player;

15   an extended memory device;

a digital audio recorder;

a digital multimedia recorder;

a personal data assistant; and

an extended memory device with a set of instructions to

20   repair the second boot algorithm.

40. The apparatus of Claim 32, wherein the processing module further functions to monitoring for a change in status of an operable connection between the multiple function handheld device and the host, wherein when the change occurs, the method of booting up the multiple function handheld device restarts.

41. The apparatus of Claim 40, wherein, prior to the change, the status of the operable connection is in a 1st external state, and, following the change, the operable connection is in a 2nd external state.